Subject: ETS MPS/PM-1 (Aqua) Engineering Release 6.2 Delivery Letter
Date: Fri, 9 Feb 2001 16:15:27 -0500
From: Dave Green <dsgreen@csc.com>
To: Willie Fuller <wfuller@pop500.gsfc.nasa.gov>

Willie,

We are pleased to deliver Release 6.2 of the ETS Multimode Portable Simulator for PM-1 (MPS/Aqua). This engineering release delivery provides resolutions to Discrepancy Reports (DRs) SMOdr07237, SMOdr08693, SMOdr08754, and SMOdr08904, as detailed in the ESDIS DR Tracking Tool (DRTT). This delivery is intended to coincide with installation of the serial cards into the MPS PC in the Building 32 EOS ISR to allow a serial interface from that PC to and from EMOS.

There are three attachments to this letter. The first attachment contains the DR descriptions, the list of source files updated, installation instructions, and special operating instructions. It is being included as a Zip file because it is 4 megabytes in size. That could overwhelm some mail systems. The second attachment contains an updated release history summary matrix. The third attachment contains an updated Mission Systems Configuration Management (MSCM) form.

This delivery includes a beta version of some library routines intended for the MPS/Aura Release 1.0 delivery. It became necessary to deliver this library because of changes made to support DRs SMOdr07237 and SMOdr08693. The scenario script enhancements intended for Aura Release 1 had been developer tested and incorporated into the library. Subsequent integration testing revealed that the trigonometric functions return incorrect results for some valid inputs. The functions that return erroneous results are flagged in Attachment A. This deficiency will be corrected in time for the Aura Release 1.0 delivery.

The updated software executable modules are being delivered on CD-ROM. Two copies of the CD are being given to Guy Cordier, who will forward one copy to Raytheon at Denver and will use the other for installation on the MPS/Aqua simulator PCs in the Bldg 32 EOS ISR and LSR at GSFC. The updated software is also being installed on the serial card-equipped PCs in the Bldg 25 Simulations Operations Center and on the portable PCs, in the event that any of those units are needed to support upcoming Aqua data flows.

(See attached file: AttachA.zip)(See attached file: AttachB.doc)(See attached file: AttachC.doc)

If you have any questions about this delivery, please do not hesitate to contact me.

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            Name: AttachA.zip
AttachA.zip   Type: application/zip
         Encoding: base64
      Description: .ZIP File

            Name: AttachB.doc
AttachB.doc   Type: Microsoft Word Document (application/msword)
         Encoding: base64
      Description: Microsoft Word 4

            Name: AttachC.doc
AttachC.doc   Type: Microsoft Word Document (application/msword)
         Encoding: base64
      Description: Microsoft Word 4

Attachment A - Release 6.2 Delivery Contents, Installation Instructions, and Special Operating Procedures

The changes made to the MPS/Aqua software since the delivery of Release 6.1 are in response to the Discrepancy Reports (DRs) described in the following table.

DR Number		Severity	DR Short Description	Comment
SMOdr07237	ETS0404	3	Unable to Set tlm>32bits in size	
SMOdr08693	ETS0425	2	TxFile doesn't work with Serial Output	
SMOdr08754	ETS0426	3	MPS does not recognize AIRS Commands	
SMOdr08904	ETS0427	2	Server crashes on EU to Raw conversion failure	

The changed Server modules are:

Executable Module	Files
SCPM1.dll TxFile.dll SerialOutput.dll	Various source units were changed to provide solutions for the DRs described above. Because the underlying library was changed to support the ETS0404 and ETS0425 fixes, the files NeTTServer.exe, GSPM1.dll, LogModule.dll, Scenario.dll, SerialInput.dll, inputIP.dll, and outputIP.dll are being redelivered.

The changed Client modules are:

Executable Module	Files
PM1SimulatorModule.jar TxFileModule.jar SerialOutputModule.jar	Various source units were changed to provide solutions for the DRs described above. Because the underlying library was changed to support the ETS0404 and ETS0425 fixes, the files nett.jar, GSModule.jar, LogModule.jar, GenericModuleLibrary.jar, ScenarioModule.jar, SerialInputModule.jar, IPInputModule.jar, and IPOutputModule.jar are being redelivered.

Installation Instructions

The changed executable modules are contained within two folders on the delivered CD.

To install the Server files, navigate to the *Server* folder on the CD, select all of the files, and copy them to the *C:\Program Files\csc\Pm1 Server 6.0* folder, replacing all files of the same name.

To install the Client files, navigate to the *Client* folder on the CD, select all of the files, and copy them to the *C:\Program Files\csc\PM1 Client 6.0* folder, replacing all files of the same name.

Special Operating Instructions

> **All projects must be rebuilt. Because many of the Client files are being replaced, it is not possible to carry projects over from Release 6.0.**

1. Special Settings for AIRS Commands

AIRS commands were not being recognized because the commands are padded to 28 words with trailing zeros. Thus the command length as received in the packet does not match the value ingested from the PDB. The solution has been to have MPS/Aqua perform a test for Apid==385 and overwrite the command packet length to agree with the database value for AIRS commands.

A container item, "**AIRSCommandWordsFlag**", has been added. The value stored in this container item is used to overwrite the packet length. All of the command lengths (16-bit WORD_COUNT) are stored in the database as one less than the actual length. All of the AIRS commands (with one exception, see below) have a word count of 8. This is the value to which "**AIRSCommandWordsFlag**" is set.

AIRSCommandWordsFlag is interpreted as follows:

> 0 ==> no truncation
> non-zero ==> truncate to that many command words
> default = 8

There is one exception that requires a workaround. AIR_CHANGE_C_MODE (parm_id=32321) has a word count of 7. The simulator cannot easily recognize this command because the container flag defaults to 8 for the majority of AIRS commands. Should an AIR_CHANGE_C_MODE command be received, the simulator will change its length to 8 and it will be incorrectly identified as an AIR_SET_C_CONTROL (parm_id=32329) command.

The workaround is to set the "**AIRSCommandWordsFlag**" container item to 7 before that command is received. The container flag must be reset to 8 before any other AIRS commands can be properly identified.

2. <u>Using TxFile to Supply Serial Output</u>

The TxFile module has been modified to work with modules requesting serial output. The main difference is that the requesting module, not TxFile, controls the rate of reading and sending data. There are no changes to the TxFile screens but the **Interval** and **Use log file timing** fields are ignored in serial transmission mode.

When TxFile is linked to a module requesting serial output, its transmission mode is automatically changed to serial transmission mode. The operator must specify the file to read, the read mode and the number of times to transmit the file. Reading and transmitting starts as soon as the **Send** button is clicked. Event messages will inform the operator when the transmission mode changes to serial, when serial transmission starts, when the serial transmission stops, and each time the end-of-file is reached.

The following table provides step by step instructions for the TxFile Transmit screen:

Step	TxFile Serial Transmission Mode
1	Enter the file name in the **Filename** field.
2	Select **Auto-Complete File** in the **Output Mode** region. If the **Output Mode** region is not available for selection, click to select the **Offset** option in the **File Read Mode** region first.
3a	The Log Module can create files with a header on each record, as described in the User's Guide. TxFile can use that header to determine the amount of data to transmit in each record. To transmit a log file with headers, click to set the **Log file** option.
3b	For raw data files with no Log Module header, select the **Offset** option in the **File Read Mode** region and enter the fixed record size in bytes in both the **Blocksize** and **Offset** data entry fields.
4	Set the **Cycles** field to the number of times to transmit the file. Set **Cycles** to zero to specify an indefinite number of times.
5	Click **Apply** and note any error messages in the event message log. If necessary correct the file name and repeat this step until there are no errors.
6	Click **Send** to start the serial transmission. Transmission will automatically stop when the file has been sent the specified number of times.
7	Optionally click **Stop** to halt the serial transmission before completion.
8	Optionally click **Send** to resume or repeat the serial transmission. If the transmission was previously stopped, it will be resumed <u>at the halted position</u> in the file. If the end of transmission was reached, the original request will be repeated. If the **Send** button is not available, click on the **Stop** button first.

3. <u>Scenario Enhancements</u>

The SIMSS baseline is being enhanced to allow more advanced assignment of values to container items. A beta version of those enhancements is being included in this delivery. All of the functions described below, except for the trigonometric functions for certain inputs, and the Boolean nand function, have been tested and shown to work correctly. The functions that sometimes return improper results are flagged in the table below.

With these enhancements, telemetry mnemonics may be set to values derived from any combination of arithmetic expressions, arithmetic functions, Boolean functions, and other mnemonics. These directives may be used to create more sophisticated scenario files. The length of an individual set directive is limited to 100 characters. Intermediate variables which have single character names have been created in part to allow writing of expressions that would otherwise be too long. In order to use any of the following expressions, specification of an equal sign in one of the following forms is required (=, +=, -=, *=, /=, ^=) after the mnemonic name and before the expression.

- <u>Set directive using arithmetic expressions</u>

  A container item may be set to an arithmetic expression using the symbols for addition (+), subtraction (-), division (/), multiplication (*) and raise to a power (^). Parentheses are recommended to specify the precedence order.

  Example:

  set mnemonic = 2 * (7^3)

- <u>Set directive using arithmetic and Boolean functions</u>

  A container item may also be set to an arithmetic expression using functions from the following table. The following rules apply:

  - The function names must be in lower case
  - The parenthesis around the function argument are required syntax.
  - Arguments to the Boolean functions must be in decimal.
  - The Boolean functions perform a bit-wise AND, OR, etc.

Function Description	Set directive example
Arcsine (x)[1]	Set mnemonic = asin (x)
Arccosine (x)[1]	Set mnemonic = acos (x)
Arctangent (x)[1]	Set mnemonic = atan (x)
Degrees to radians (x)	Set mnemonic = dtor (x)
Radians to degrees (x)	Set mnemonic = rtod (x)
Square root (x)	Set mnemonic = sqrt (x)
Log (x)	Set mnemonic = ln (x)
Exponent (x)	Set mnemonic = exp (x)
Tangent (x)[1]	Set mnemonic = tan (x)
Sine (x)[1]	Set mnemonic = sin (x)
Cosine (x)[1]	Set mnemonic = cos (x)
Sine in radians (x)[1]	Set mnemonic = rsin (x)
Cosine in radians (x)[1]	Set mnemonic = rcos (x)
Arcsine in radians (x)[1]	Set mnemonic = rasin (x)
Arccosine in radians (x)[1]	Set mnemonic = racos (x)
Arctangent in radians (x)[1]	Set mnemonic = ratan (x)
Add x to mnemonic's current value.	Set mnemonic += x
Subtract x from mnemonic's current value	Set mnemonic -= x
Multiply mnemonic's current value by x	Set mnemonic *= x
Divide mnemonic's current value by x	Set mnemonic /= x
Raise mnemonic's value to the power of x	Set mnemonic ^= x
AND two values together	Set mnemonic = mnemonic and 1
OR two values	Set mnemonic = mnemonic or 7
OR two values and Negate the result	Set mnemonic = mnemonic nor 1
Exclusive OR two values	Set mnemonic = mnemonic xor 7
NAND two values[2]	Set mnemonic = mnemonic nand 15

- <u>Set directives using mnemonics in expressions</u>

Container names may be used instead of a number in an expression. In the simplest case, a container item may be set to the current value of another container item.

    set mnemonicA = mnemonicB

Container items may also be combined together to create expressions.

    set mnemonicA = (mnemonicB + mnemonicC)/2

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[1] The noted functions return incorrect results for some valid inputs.
[2] The nand function doesn't work.

- Intermediate variables

  Twenty six intermediate variables have been created to allow for saving and using intermediate values. These variables are case-sensitive 'A' through 'Z'. When set, these variables retain their values as long as the simulator runs. However, while they can be used in expressions, they are not container items and therefore, cannot be read via the "get" directive.

  Example:

  set A = mnemonicA
  - ●
  - ● ; other directives
  - ●
  ; mnemonicA may have changed value, so

  set mnemonicB = A

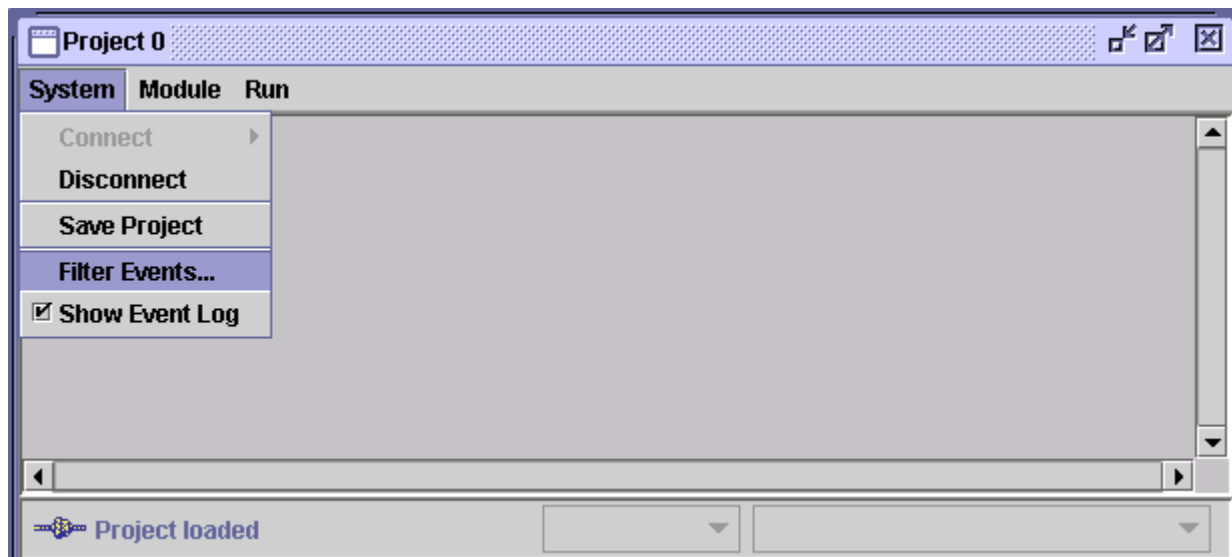 Also, intermediate variables may be used to manipulate Hex values (not available with Boolean functions).

  set B = 0x11
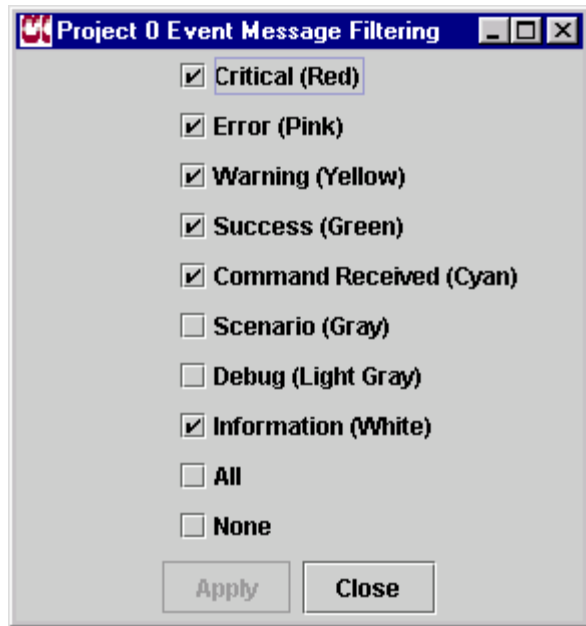 set mnemonic = mnemonic and B

4. Event Message Filtering

The SIMSS baseline has been enhanced to allow filtering of event messages by color or type. On the System Menu in the Project Window, there is a new entry named "Filter Events…"

Project 0 Event Message Filtering

☑ Critical (Red)

☑ Error (Pink)

☑ Warning (Yellow)

☑ Success (Green)

☑ Command Received (Cyan)

☐ Scenario (Gray)

☐ Debug (Light Gray)

☑ Information (White)

☐ All

☐ None

[Apply] [Close]

When **"Filter Events…"** is selected the Event Message Filtering screen appears. This image shows the default filtering scheme. Only event messages with the selected colors will be displayed in the event message portion of the screen. All event messages will continue to be generated and written into the event message log file.

To disable the display of any of these event message types, clear its checkbox.

To enable the display of any of these event message types, check its checkbox.

Use the **Apply** button for changes to take effect. Use the **Close** button to dismiss this screen.

Event message filtering was implemented to control the volume and type of event messages being sent to the screen. It is still possible to overwhelm the client software with too many messages and lose control of the user interface. There was also the concern that more important event messages might get "lost" among the multitude of routine, scenario-generated, and debug information messages. This is the main reason for limiting the number of directives that may be executed each second from scenario files.

Several changes were made to support filtering.

- When a scenario file is executed, the successful setting of container items to specified values will now be reported in Scenario (Gray) event messages.
- The ordinary event message responses to directives submitted from the directive line will continue to have the Information (White) type.
- When the operator uses any configuration or data entry screens, the ordinary responses to fields being changed will now have the Debug (Light Gray) type. Abnormal event message responses will continue to have the error or warning color.
- When command subsystem debug event messages are enabled, they will have the Command Received (Cyan) type instead of the Debug (Light Gray) type.

Limitations to scenario processing

- When the scenario color is disabled, the limit on the number of scenario directives executed per second is increased. Testing has shown that about 50 directives per second can be supported.
- Scenario files that start, stop, and modify telemetry packet generation must still be limited to 15-20 directives per second. This is because the telemetry generator (TlmGen) software can be overwhelmed by the requests.

5. <u>Playback File Creation</u>

Along with the repair to allow TxFile to interface to the Serial Output module comes the ability to generate files of Channel Access Data Units (CADUs) for serial replay. These instructions describe how to create a disk file of CADUs for later replay.

<div style="border:1px solid black; padding:10px;">

IMPORTANT
When creating a file of telemetry CADUs for later replay, ensure that the MPS connection to the Matrix Switch is disabled to prevent inadvertent transmission of data.

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The procedure for building a file of CADUs is as follows:

1. Build a project with the SCPM1 module connected to a Log Module and a Serial Output module, as shown in the figure on the second page following.

    The picture actually shows three windows. The main configuration window is in the background with a Link Information window on top of it. The Log Configuration window is at the top of the figure. Note that the GSPM1 module, which appends EDOS Service Headers to telemetry packets, is not needed when operating the simulator in serial mode. The third output channel of SCPM1 is used, as indicated in the Link Information window. The Serial Output module is used to provide a clock signal to the SCPM1 module so it will create CADUs at the proper rate.

2. After loading the database, perform the extra SCPM1 configuration step of setting the simulation mode to serial. To do this, click on the **Select Simulation Mode** option of the **SCPM1 Configuration Menu**, and select **Serial Mode** in the resulting window. See Paragraph SCPM1-5.1 in the User's Guide for more information.

3. Configure the Serial Output module frequency to 16383. See the Serial Output section of the User's Guide. No other setup is necessary.

4. Configure the Log Module by entering a file name. You may also deselect the **Log With Header** option and the **Variable Length Output** option. If you deselect the **Variable Length Output** option you must ensure that the Packet size is set to 256 bytes.

<div style="border:1px solid black; padding:10px;">

When replaying the file created, the TxFile module must be set to a complementary configuration. It is suggested that Notepad be used to create a text file containing setup and descriptive information for the log file being created. Give it the same name as the log file, with an extension of .txt, and save it in the same folder as the log file.

</div>

5. The Virtual Channel Identification (VCID) and Replay fields of the VCDU header must be set to indicate that playback VCDUs are being generated. After running the project, and before starting telemetry transmission, enter the following two set directives to the SCPM1 module:

   set vcdu2vcid 1
   set vcdu2replay 1

6. Run the usual telemetry startup scenario file, any special telemetry value setup scenario files desired, then start telemetry transmission by clicking on the **SRL** button of the SCPM1 Main Display.

7. At 16 Kbit the file will take 32 times longer to create than to play back at 524 Kbit. For example a four minute playback file will take 128 minutes to create.

8. After the file creation is complete, reset the two VCDU header parameters (see Step 5) to the following values:

   set vcdu2vcid 2
   set vcdu2replay 0
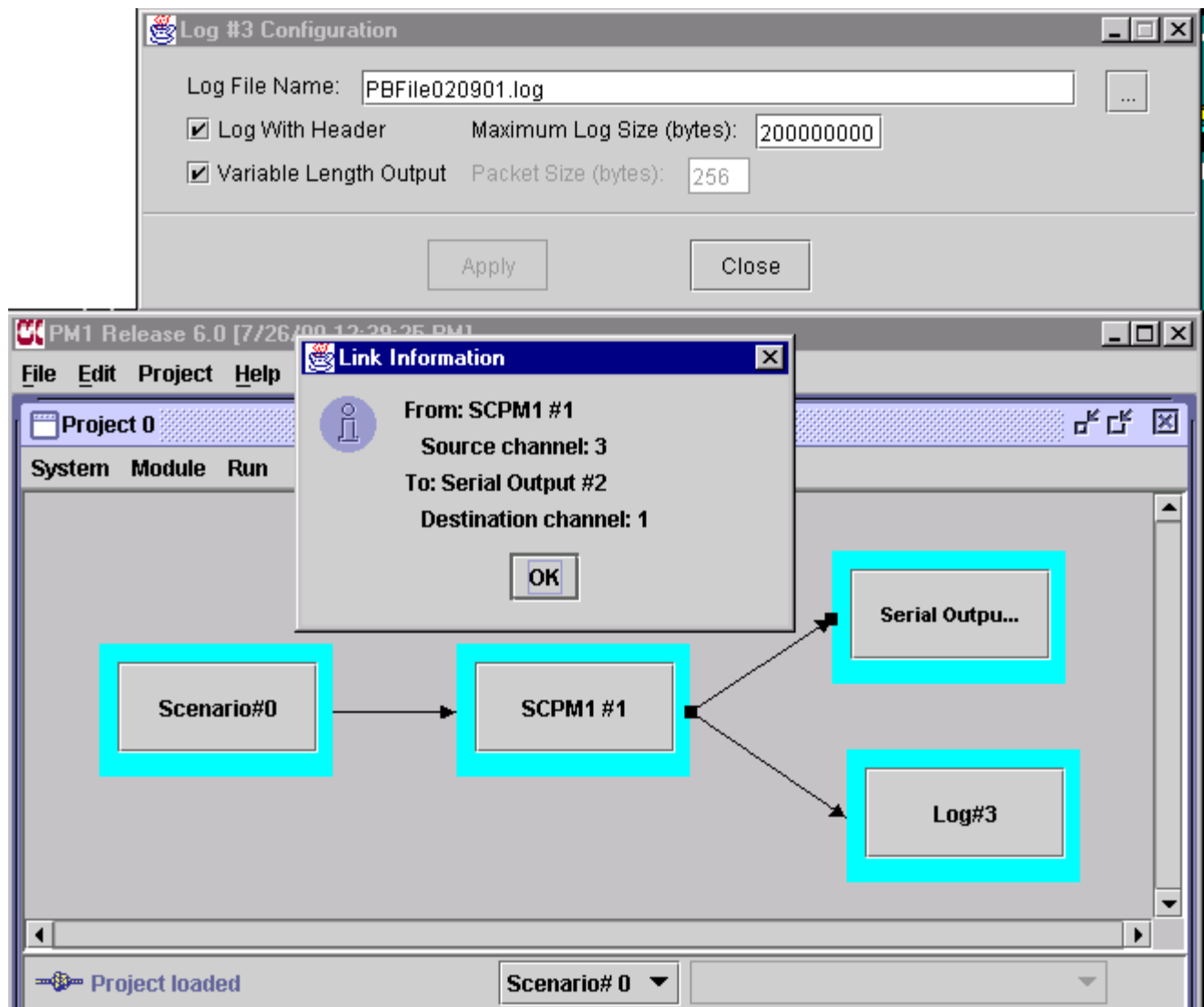
6. Serial Mode Operations

The project shown in the picture below will allow serial command receipt simultaneously with transmission of 1 or 4 or 16 Kbit housekeeping telemetry, and simulated playback of telemetry at the 524 Kbit rate.

When building this project, connect TxFile to one Serial Output module. TxFile will be used to transmit the 524 Kbit playback file. Set the parameters of TxFile to correspond to the file type to be transmitted, as described in Section 2 above. If the **Log With Header** option was selected when the file was created, select the **Log file** option in TxFile. Otherwise, select **Offset** in the **File Read Mode** region and set the **Blocksize** and **Offset** fields to 256, the size of a CADU in bytes.

Connect output channel 3 of SCPM1 to the other Serial Output module, and connect the Serial Input module to input channel 2 of SCPM1. Note that the GSPM1 module is not used.

Follow these steps during initialization:

1. After loading the database, perform the extra SCPM1 configuration step of setting the simulation mode to serial. To do this, click on the **Select Simulation Mode** option of the **SCPM1 Configuration Menu**, and select **Serial Mode** in the resulting window. See Paragraph SCPM1-5.1 in the User's Guide for more information.

2. Configure the Serial Output module that is connected to TxFile as follows:

    Set the frequency to 524288
    Select the Reed-Solomon check box
    Set the Frame Length and Frame Size values to 256 bytes
    Set the RS Length value to 32 bytes

3. Configure the Serial Output module that is connected to SCPM1 as follows:

    Set the frequency to 16384
    Select the Reed-Solomon check box
    Set the Frame Length and Frame Size values to 256 bytes
    Set the RS Length value to 32 bytes

4. The Serial Input module should default to the correct setup. Ensure that its configuration agrees with that shown in Paragraph SI-5.1 of the User's Guide.

5. Run the usual telemetry startup scenario file, any special telemetry value setup scenario files desired, then start telemetry transmission by clicking on the **SRL** button of the SCPM1 Main Display.

6. To begin playback emulation, follow the TxFile setup directions in paragraph 2 above and the "Using TxFile to Supply Serial Output" directions in Section 2 of this Attachment.
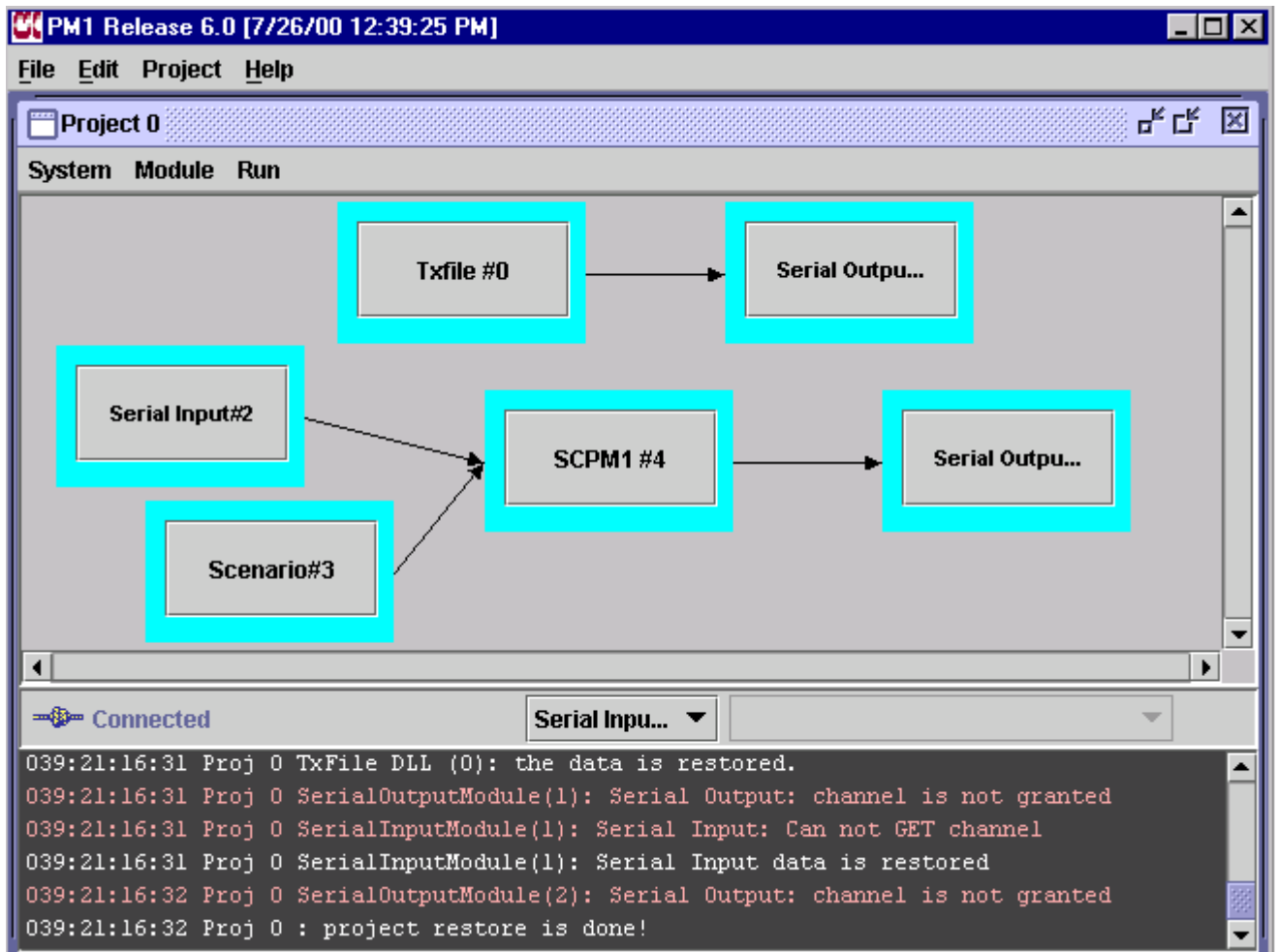
Attachment B - Release History Summary Matrix

Attached is the release history summary matrix, which reflects the MPS/Aqua Release 6.2 delivery.

Release History Summary Matrix

System: **MPS/Aqua**

Release Number		1.0	1.1	2.0	2.1	2.2	3.0	3.1	4.0	5.0	5.1	6.0 Beta	6.0 Beta Update 1
Delivery Date		7/30/99	9/2/99	9/24/99	10/25/99	11/18/99	12/17/99	1/21/00	3/17/00	5/12/00	6/22/00	7/28/00	9/14/00
Configuration Item	CI No.												
Core (Client)	1.1	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0
Core (Server)	1.2	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0
SC-PM1 (Client)	1.3	1.0	1.1	2.0	2.1	2.2	3.0	3.1	4.0	5.0	5.0	6.0	6.0
SC-PM1 (Server)	1.4	1.0	1.1	2.0	2.1	2.2	3.0	3.1	4.0	5.0	5.1	6.0	6.0
GS (Client)	1.5	1.0	1.1	2.0	2.1	2.2	3.0	3.1	4.0	5.0	5.0	6.0	6.0
GS (Server)	1.6	1.0	1.1	2.0	2.1	2.2	3.0	3.1	4.0	5.0	5.0	6.0	6.0
IP Input (Client)	1.7	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0
IP Input (Server)	1.8	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0
IP Output (Client)	1.9	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0
IP Output (Server)	2.0	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0
DQM (Client)[1]	2.1												
DQM (Server)[1]	2.2												
Logging (Client)	2.3	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0

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[1] To be delivered in a future release

Release Number		1.0	1.1	2.0	2.1	2.2	3.0	3.1	4.0	5.0	5.1	6.0 Beta	6.0 Beta Update 1
Delivery Date		7/30/99	9/2/99	9/24/99	10/25/99	11/18/99	12/17/99	1/21/00	3/17/00	5/12/00	6/22/00	7/28/00	9/14/00
Configuration Item	CI No.												
Logging (Server)	2.4	1.0	1.0	2.0	2.0	2.0	3.0	1.0	1.0	1.1	1.1	2.0	2.0
Scenario (Client)[2]	2.5								1.0	1.1	1.1	2.0	2.0
Scenario (Server)[2]	2.6								1.0	1.1	1.1	2.0	2.0
Serial Input (Client)[2]	2.7								1.0	1.1	1.1	2.0	2.0
Serial Input (Server)[2]	2.8								1.0	1.1	1.1	2.0	2.0
Serial Output (Client)[2]	2.9								1.0	1.1	1.1	2.0	2.0
Serial Output (Server)[2]	3.0								1.0	1.1	1.1	2.0	2.0
TxFile (Client)[3]	3.1												
TxFile (Server)[3]	3.2												

[2] New in Release 4.0
[3] New in Release 6.0

Release History Summary Matrix, Continued

System: **MPS/Aqua**

Release Number		6.0	6.1	6.2									
Delivery Date		9/28/00	11/17/00	2/9/01									
Configuration Item	CI No.												
Core (Client)	1.1	2.0	2.0	4.0									
Core (Server)	1.2	2.0	2.0	4.0									
SC-PM1 (Client)	1.3	6.0	6.0	6.2									
SC-PM1 (Server)	1.4	6.0	6.0	6.2									
GS (Client)	1.5	6.0	6.0	6.0									
GS (Server)	1.6	6.0	6.0	6.0									
IP Input (Client)	1.7	2.0	2.0	4.0									
IP Input (Server)	1.8	2.0	2.0	4.0									
IP Output (Client)	1.9	2.0	2.0	4.0									
IP Output (Server)	2.0	2.0	2.0	4.0									
DQM (Client)[4]	2.1												
DQM (Server)[4]	2.2												
Logging (Client)	2.3	2.0	2.0	4.0									

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[4] To be delivered in a future release

Release Number		6.0	6.1	6.2									
Delivery Date		9/28/00	11/17/00	2/9/01									
Configuration Item	CI No.												
Logging (Server)	2.4	2.0	2.0	4.0									
Scenario (Client)[5]	2.5	2.0	2.0	4.0									
Scenario (Server)[5]	2.6	2.0	2.0	4.0									
Serial Input (Client)[5]	2.7	2.0	2.0	4.0									
Serial Input (Server)[5]	2.8	2.0	2.0	4.0									
Serial Output (Client)[5]	2.9	2.0	2.0	4.0									
Serial Output (Server)[5]	3.0	2.0	2.0	4.0									
TxFile (Client)[6]	3.1	2.0	2.0	4.0									
TxFile (Server)[6]	3.2	2.0	2.0	4.0									

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[5] New in Release 4.0
[6] New in Release 6.0

Attachment C — Mission Systems Configuration Management Form

This attachment contains the completed Mission Systems Configuration Management (MSCM) form for the delivery of MPS/Aqua Release 6.2.

Mission Systems Configuration Management Form

1. ORIGINATOR	2. ORGANIZATION	3. PHONE	4. E-MAIL ADDRESS
Dave Green	CSC	301-805-3420	dsgreen@csc.com

5. ELEMENT	6. INSTALLATION PRIORITY	7. TRACKING NUMBER
ETS (MPS/PM1)	Routine	(Assigned by CM Office)

8. SOURCE CHANGE REQUEST(S):	9. APPROVALS	
ETS delivery of MPS for EOS PM-1 (MPS/PM1)	Element Manager _____	___/___/___
	Flight Ops Director _____	___/___/___
	Operations Manager _____	___/___/___

10. DELIVERED SYSTEM (Check all that apply)

	Name	Version	Media Identification	Identification Date
☐ Hardware	_____	_____	_____	_____
☒ Software	MPS/PM1	R6.2	CD-ROM	2/9/01
☐ Database	_____	_____	_____	_____
☒ Documentation:				
MPS/PM1 delivery package	N/A	via email	2/9/01	
_____	_____	_____	_____	
_____	_____	_____	_____	
☐ Other	_____	_____	_____	_____

11. CHANGE DESCRIPTION

Release 6.2 of MPS/PM-1 (MPS/PM-1)

12. ATTACHMENT(S): Check if YES ☒

Description: MPS/PM1 Release 6.2 delivery package (cover letter with attachments) dated 2/9/01

13. CM OFFICE USE

	Location (Bldg/Room)	Slot location(s)
Hardware	___/___	_____
Media	___/___	_____
Documentation	___/___	_____
Installation date	___/___/___	CM Office Signature _____

Form MSCM (970327)